

## WHAT IS CLAIMED IS:

✓ 1. A method for providing an immune response to a non-enteric pathogen antigen (NEPA), in an animal made immunoreceptive to the NEPA, by feeding the immunoreceptive animal with a substance comprising a physiologically acceptable plant material containing the NEPA where the animal is made immunoreceptive to the NEPA by immunization against a non-enteric pathogen containing the NEPA prior to feeding the animal the substance.

2. The method of Claim 1 where the NEPA is HBsAg.

✓ 3. A method for boosting an immune response to a non-enteric pathogen in a human previously having a positive response to primary immunization against the pathogen which method comprises the human ingesting a substance comprising a physiologically acceptable plant material containing an NEPA contained in the pathogen.

4. The method of Claim 3 wherein the non-enteric pathogen is hepatitis B and the NEPA is HBsAg.

5. The method of Claim 3 wherein the plant material is from a plant that has been genetically altered to express said antigen.

6. The method of Claim ~~4~~<sup>1</sup> wherein the plant material is from a plant that has been genetically altered to express said antigen.

7. The method of Claim ~~5~~<sup>2</sup> wherein the human ingests sufficient plant material to provide from about 10 to about 100 micrograms of NEPA per kilogram of body weight of the human.

8. The method of Claim ~~6~~<sup>3</sup> wherein the human ingests sufficient plant material to provide from about 10 to about 100 micrograms of HBsAg per kilogram of body weight of the human.

9. The method of Claim ~~8~~<sup>2</sup> wherein the human ingests sufficient plant material to provide from about 2 to about 5 grams of plant material per kilogram of body weight of the human.

10. The method of Claim ~~9~~<sup>9</sup> wherein the human ingests said plant material a plurality of different times, said times being separated from each other by at least 5 days.

11. The method of Claim ~~8~~<sup>9</sup> wherein the human ingests said plant material a plurality of different times, said times being separated from each other by at least 5 days.

12. The method of Claim 9 wherein the human ingests said plant material a plurality of different times, said times being separated from each other by at least 5 days.

13. The method of Claim 10 wherein the plurality of times is three times.

14. The method of Claim 11 wherein the plurality of times is three times.

15. The method of Claim 12 wherein the plurality of times is three times.

16. The method of Claim 5 wherein the plant material is a material from a plant of

the family ~~solanaceae~~ Solanaceae

17. The method of Claim 6 wherein the plant material is a material from a plant of

the family ~~solanaceae~~ Solanaceae

18. The method of Claim 16 wherein the plant is a potato.

19. The method of Claim 17 wherein the plant is a potato.